



Open Call

For scientists based in Europe and Canada to participate in

Exp 347 Baltic Sea Paleoenvironment

**An IODP Mission Specific Platform Expedition
Organised by the ECORD Science Operator (ESO)**

Deadline to apply: April 30th, 2012

Background and objectives: The Baltic Sea Basin proposal addresses four over-arching themes:

- Climate and sea level dynamics of MIS 5, including onsets and terminations;
- The complexities of the last glacial, MIS 4 – MIS 2;
- Deglacial and Holocene (MIS 2 – MIS 1) climate forcing;
- Deep biosphere responses to glacial-interglacial cycles;

The Baltic Sea Basin is one of the world's largest intra-continental basins, occupying 373,000 km² and with a drainage area four times its size, and has served as depositional sink throughout at least the last several hundred thousand years. Its sediments comprise a unique high-resolution archive of the paleoenvironmental history of the huge drainage area, the basin itself and neighboring sea areas. The location of the Baltic Sea Basin in the heartland of the recurrently waning and waxing Scandinavian Ice Sheet has resulted in a complex development, characteristic for many glaciated regions of the Northern Hemisphere: repeated glaciations of different magnitude, sensitive responses to sea level and gateway threshold changes, large shifts in sedimentation patterns and high sedimentation rates. The high sedimentation rates (100-500 cm/1000 years) of the Baltic Sea Basin provide an excellent opportunity to reconstruct climatic variability of global importance at unique resolution from a marine-brackish setting controlled by e.g. changes in Meridional Overturning Circulation, the North Atlantic Oscillation and the Arctic Oscillation.

The discovery of microorganisms in deep sub-surface sedimentary deposits, and even in basement rock, has profoundly changed our perspective on the limits of living organisms on our planet. Understanding the minimum energy requirements for growth and survival may offer a means of interpreting the distribution, composition, and activity of deeply buried communities. Can bacteria survive under extended periods of glaciation, maintaining complex functions at an energy flux that barely allows cell growth over many years? Are the deeply buried communities relicts of a time when the sediment was originally deposited, and if so do they then reflect past oceanographic conditions?

Timing: It is anticipated that the offshore portion of the expedition will take place during Spring-Summer 2013 and last for 60 days, with only a limited proportion of the Science Party participating. See <http://www.eso.ecord.org/expeditions/msp.php>.

Subsequently, an Onshore Science Party (OSP) will be held at Bremen University, probably in the Autumn of 2013. The OSP is expected to be several weeks long, the exact length dependent on core recovery. All members of the Science Party must attend for the whole duration of the Onshore Science Party. See <http://www.eso.ecord.org/expeditions/osp.php>.

Expertise sought: While other expertise may be considered, specialists in the following fields are required: sedimentology, microbiology, organic geochemistry, inorganic geochemistry, benthic foraminifera, planktonic foraminifera, diatoms, ostracodes, dinoflagellates, terrestrial palynology, petrophysics/logging, stratigraphic correlation, and paleomagnetism.

How to apply: Scientists interested in participating, please consult the ESSAC webpage (link below). Required documents (PDF only) are: **1)** a CV, **2)** a letter of interest including your specific expertise, previous involvement in DSDP/ ODP/ IODP expeditions, research interest, **3)** a publication list.

Young researchers must additionally provide a letter of support from their host institution including information on the post-cruise science support: How to achieve the proposed scientific objectives in the future (funding scheme and support from host institution).

Please send a copy of your application documents to your national office/delegate in order they can help to support your application, see:

<http://www.essac.ecord.org/index.php?mod=user>



For further information or questions please contact:

ESSAC Office ECORD Science Support & Advisory Committee

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